NOAA/National Weather Service
Product Description Document

Experimental Modernized Open Lake Forecast for the Great Lakes
August 1, 2016

Part I. Mission Connection

a. **Product Description** - The Open Lake Forecast (GLF) is a text product routinely issued by five primary Great Lakes Weather Forecast Offices (WFOs) 4 times per day to state expected weather conditions within their marine forecast area of responsibility through Day 5. The primary offices responsible for issuing the GLF are: WFOs Marquette (for Lake Superior), Detroit (for Lake Huron and Lake St. Clair), Chicago (for Lake Michigan), Cleveland (for Lake Erie), and Buffalo (for Lake Ontario). It is primarily used as a tool for planning purposes to support and promote safe transportation across the Great Lakes. For more information regarding the GLF product, refer to NWSI 10-312.

   The experimental Modernized Open Lake Forecast is being tested at WFO Detroit for Lake Huron and Lake St. Clair and at WFO Chicago for Lake Michigan. Other Great Lakes offices may test the enhancement as resources allow. NWS intends to re-engage Environment Canada to have them create a matching tabular (bullet like) format on the Canadian side of the Lakes. The goal is to gather sufficient positive feedback that we may recommend the tabular (bullet like) format, replace the format of the legacy GLF.

   Feedback we have received so far suggests that the National Weather Service (NWS) needs fewer, not more, Great Lakes forecast products. Thus, this experimental forecast is intended to provide a test of the tabular (bullet-like) format and not to develop a new product.

b. **Purpose** - The format of the GLF has been unchanged for many years and has not allowed the Great Lakes offices the flexibility of improving the forecast by adding new predictive variables. A seamless, harmonized suite of marine weather forecast information is required that provides for the variety of forecast elements felt by the customer and is efficiently presented in an easily readable manner.

c. **Audience** - The target audience for this product is all users of marine weather information, including the commercial marine community, recreational boating community, and other government agencies.

d. **Presentation Format** - The modernized format of the GLF will take a bulleted form that concisely and effectively presents existing marine forecast elements - and allows gradual expansion for optional emergent capabilities such as wave spectra information, wave period, visibility, wind threshold probabilities, ice cover, 10 meter (m) wind speed and direction forecasts, 30m wind speed and direction forecasts, etc. For the evaluation

period, the GLF will contain forecasts of significant weather, 10m wind, 30m wind, significant waves, and maximum (occasional) waves.

e. **Feedback Method** - Comments on the proposal to implement this enhancement to the GLF at all primary Great Lakes WFOs can be provided through the following survey link (which will be advertised in a Public Information Statement):

http://www.nws.noaa.gov/survey/nws-survey.php?code=MODGTLAKESFCST

The comment period will be open through December 31, 2016. During this experimental period, a proactive effort will be made to educate users and partners of the product availability and use. The enhancement could also potentially expand to Great Lakes Nearshore Marine Forecasts. At the end of the comment period, a decision will be made whether to transition to operational, extend the comment period, or to discontinue the enhancement.

Part II. Technical Description

a. **Format and Science Basis** - A sample format is below. The format includes mandatory elements in bulleted format. The mandatory elements are 10m and 30m wind speed/direction, significant waves, maximum (occasional) waves and significant weather. The Day 3-5 forecast will be in narrative format and will only include weather, significant wave height, and 10m wind speed and direction.

Before the end of the evaluation period, additional elements may be added to the format to test the capacity for expansion within the GLF. This could include Probability of Gale Force wind, return frequency of maximum (occasional) waves, or wave period.

OPEN LAKE FORECAST FOR LAKE HURON
NATIONAL WEATHER SERVICE CITY STATE
TIME-DATE (example: 900 AM EDT FRI MMM DD YYYY)

.SYNOPSIS...

SSZXXX-XXX>XXX-DDHHMM- (UGC/FIPS CODING)
GEOGRAPHICAL DESCRIPTORS
TIME-DATE (example: 900 AM EDT FRI MMM DD YYYY)

...HEADLINE...

.TODAY...
WEATHER.....
WIND (10M)....KNOTS
WIND (30M)…KNOTS
SIGNIFICANT WAVES.....FEET/METERS
MAXIMUM WAVE (HIGHEST 5 PERCENT)….FEET/METERS (ABOVE THRESHOLD)

.TONIGHT...
.TOMORROW...
.TOMORROW NIGHT…

.FORECAST DAYS 3 THROUGH 5….
WEATHER…10M WIND…SIGNIFICANT WAVES
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b. Product Availability - The experimental product format is available online via the following links:

http://www.weather.gov/dtx/glftable
http://www.weather.gov/lot/glftable
http://www.weather.gov/dtx/glftablesc

c. Additional Information – A product formatter will be developed for use associated with the Advanced Weather Interactive Processing System (AWIPS) Graphical Forecast Editor (GFE). Additionally, the formatter will use various tools for creating derived products as needed, such as maximum wave and 30m wind speeds. Also, a means for converting abbreviated text into narrative text for the National Oceanic and Atmospheric Administration (NOAA) All-Hazards Weather Radio may be created as part of this project.

Sample Product….
EXPERIMENTAL TABULAR OPEN LAKE FORECAST FOR LAKE HURON
NATIONAL WEATHER SERVICE DETROIT/PONTIAC MI
500 AM EST THU JAN 22 2015

.SYNOPSIS...HIGH PRESSURE OF 30.50 INCHES WILL BUILD INTO THE OHIO VALLEY TODAY. A COLD FRONT WILL THEN APPROACH ON FRIDAY...MOVING THROUGH SATURDAY MORNING...WITH A SECONDARY COLD FRONT...29.60 INCHES...SINKING SOUTH SATURDAY NIGHT.

LHZ361-222100-
LAKE HURON FROM 5NM EAST OF MACKINAC BRIDGE TO PRESQUE ISLE LT
BEYOND 5 NM OFF SHORE-
500 AM EST THU JAN 22 2015

.TODAY...
WEATHER.....PARTLY SUNNY WITH SCATTERED FLURRIES...THEN
MOSTLY CLOUDY EARLY IN THE AFTERNOON.
10-M WINDS.....WEST 10 TO 15 KNOTS.
30-M WINDS.....WEST 15 TO 20 KNOTS.

SIG WAVES.....2 TO 4 FEET.
OCNL WAVES.....AROUND 5 FEET.

.TONIGHT...
WEATHER.....CLOUDY...THEN SLIGHT CHANCE OF SNOW SHOWERS
AFTER MIDNIGHT.
10-M WINDS.....SOUTHWEST 15 TO 20 KNOTS.
30-M WINDS.....SOUTHWEST 20 TO 25 KNOTS.
SIG WAVES.....1 TO 3 FEET...BUILDING TO 2 TO 4 FEET AFTER MIDNIGHT.
OCNL WAVES.....AROUND 5 FEET UNTIL EARLY MORNING.

.FRIDAY...
WEATHER.....CLOUDY WITH CHANCE OF SNOW SHOWERS.
10-M WINDS.....WEST TO 30 KNOTS.
30-M WINDS.....WEST GALES TO 35 KNOTS.
SIG WAVES.....2 TO 4 FEET.
OCNL WAVES.....AROUND 5 FEET.

.FRIDAY NIGHT...
WEATHER.....CLOUDY WITH CHANCE OF SNOW SHOWERS.
10-M WINDS.....WEST 15 TO 20 KNOTS.
30-M WINDS.....WEST 20 TO 25 KNOTS.
SIG WAVES.....2 TO 4 FEET.
OCNL WAVES.....AROUND 5 FEET UNTIL EARLY MORNING.

.FORECAST DAYS 3 THROUGH 5...
.SATURDAY...CHANCE OF SNOW SHOWERS...THEN SLIGHT CHANCE OF SNOW SHOWERS. WEST WINDS 10 TO 15 KNOTS. WAVES 2 TO 4 FEET.
.SUNDAY...CHANCE OF SNOW. NORTHEAST WINDS 10 TO 15 KNOTS. WAVES 2 TO 4 FEET.
.MONDAY...NORTHEAST WINDS 10 TO 15 KNOTS. WAVES 2 TO 4 FEET.
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